

Appl. No. 10/031,759
Response dated May 6, 2005
Reply to Office action of February 7, 2005

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A regenerative oxidizer, for removal of pollutants from waste gas comprising:

- an elongated housing having an inlet duct and an outlet duct;
- a heat media bed disposed circumferentially within the housing;
- a combustion chamber equipped with a burner or electric heater;
- a distribution cylinder disposed in the center of the housing;
- a separator which is in contact with the heat media bed and the lower section isolated by the inlet chamber; and
- a rotor which consists of a rotor cylinder having multiple distribution wings, a rotor cover surrounding the distribution wings and an outlet hole connected to the outlet duct, disposed within the distribution cylinder.

Claim 2 (original): A regenerative oxidizer as in claim 1 wherein a catalyst bed disposed circumferentially above the heat media bed.

Claim 3 (original): A regenerative oxidizer as in claim 1 wherein the separator consists of a cylindrical outer wall which fits to the inner wall of the housing and is divided into multiple cells by isolating plates.

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Claim 4 (canceled)

Claim 5 (currently amended): A regenerative oxidizer as in claim [4] 1 wherein the distribution wings, having an upper and lower outlet hole, are disposed with equal spacing in the upper section of the rotor along the circumference and approximately one-half of the said distribution wings are covered by a rotor cover.

Claim 6 (original): A regenerative oxidizer as in claim 1 wherein a separate purge section is disposed within the rotor between the influent distribution zone and the effluent zone.

Claim 7 (original): A regenerative oxidizer as in claim 1 wherein a vertical partition is disposed within the rotor on the other side of a purge section.

Claim 8 (original): A regenerative oxidizer as in claim 1 wherein the gap between the surface of the separator's inner wall and the distribution wings are sealed by physical, pneumatic or hydraulic means.

Claim 9 (original): A regenerative oxidizer as in claim 8 wherein the sealing means are Teflon, springs devices or O-rings.

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Claim 10 (withdrawn): A method for removal of pollutants from waste gases comprising the steps of:

- (a) providing a regenerative oxidizer having an elongated housing with an inlet duct and an outlet duct; a heat media bed disposed circumferentially within the housing; a combustion chamber equipped with a burner or electric heater; a distribution cylinder disposed in the center of the housing; a separator which is in contact with the heat media bed and the lower section isolated by the inlet chamber; and a rotor disposed within the distribution cylinder;
- (b) causing incoming waste gases to flow via inlet duct into rotor and are distributed by distribution wings to separator;
- (c) causing the waste gases to flow upwardly through the heat media bed and be treated in the combustion chamber;
- (d) causing the purified gases to flow downwardly through heat media bed;
- (e) causing the purified gases pass through the rotor and to the inner section of rotor cylinder;
- (f) causing the purified gases pass through lower outlet hole of rotor and discharge via outlet duct into the atmosphere.

Claim 11 (withdrawn): A method for removal of pollutants from waste gases as in claim 10 wherein a catalyst bed is disposed circumferentially above the heat media bed.

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Claim 12 (withdrawn): A method for removal of pollutants from waste gases as in claim 10 wherein a separate purge section is disposed within the rotor between the influent distribution zone and the effluent zone.

Claim 13 (withdrawn): A method for removal of pollutants from waste gases as in claim 10 wherein a vertical partition section is disposed in the opposite side of the purge section within the rotor.